

## ABSTRACT OF THE DISCLOSURE

Disclosed is a method for producing core-shell type metallic nanoparticles involving (i) providing a dispersion of a first metal as nanoparticles in an appropriate organic solvent; (ii) providing a solution of a metallic precursor containing a second metal in an appropriate organic solvent, in which the second metal has a reduction potential higher than that of the first metal; and (iii) combining the dispersion from (i) and the solution from (ii) together to carry out the transmetalation reaction of the first and second metals, thereby forming core-shell type metallic nanoparticles. Also, according to a second aspect of the invention, there is disclosed a. method for producing solid solution alloy type metallic nanoparticles involving (i) providing a solution of a thermally degradable metallic precursor containing a first metal in an appropriate organic solvent; (ii) providing a solution of a metallic precursor containing a second metal in an appropriate organic solvent, in which the second metal has a reduction potential higher than that of the first metal; and (iii) combining the solutions from (i) and (ii) together to carry out the transmetalation reaction of the first and second metals, thereby forming solid solution alloy type metallic

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